

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2003-111054

(43)Date of publication of application : 11.04.2003

(51)Int.Cl. H04N 7/173

G06F 3/14

G06F 13/00

H04N 7/08

H04N 7/081

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(54) MOVING PICTURE DISTRIBUTION SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To display moving picture contents and data contents onto a monitor screen in a more proper display from according to each monitor screen or a desire of a user.

SOLUTION: A server 100 transmits a command associated with display with moving picture contents as broadcast data. The display relation command includes access information for accessing prescribed data contents following the reproduction of the moving picture contents, its reproduction time information and a display mode command for deciding the display mode of both the contents. The server 100 provides the data contents via a communication network according to the access from an information terminal 200. The information terminal 200 requests and receives the prescribed data contents to the server 100 on the basis of the access information of

the reproduction time information following the reproduction of a moving picture and displays them on a monitor screen together with the moving picture. In this case, the display mode of both the contents is controlled on the monitor screen on the basis of the display mode command.

LEGAL STATUS

[Date of request for examination] 04.12.2002
[Date of sending the examiner's decision of rejection] 26.01.2007
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]
[Date of final disposal for application]
[Patent number]
[Date of registration]
[Number of appeal against examiner's decision of rejection] 2007-005870
[Date of requesting appeal against examiner's decision of rejection] 26.02.2007
[Date of extinction of right]

CLAIMS

[Claim(s)]

[Claim 1] While transmitting the access information and its playback time information for accessing to predetermined data contents with animation contents and playback of the animation as broadcast data The server which transmits the data contents demanded based on said access information with playback of said animation as commo data through a communication network, It has the information terminal unit which displays the animation contents and data contents which received from said server on monitor display. Said server In addition to said access information and its playback time information, the display mode command which determines the display mode of the animation contents in the screen of said information terminal unit and data contents is transmitted. While said information terminal unit reproduces said animation contents on self monitor display The animation distribution system characterized by minding said communication network based on said access information with this playback, requiring and receiving said data contents serially, and

performing the display of said animation contents and data contents according to said display mode command.

[Claim 2] Said display mode command is an animation distribution system containing at least one of the commands which specifies aspect ratio preservation or the display size of the command relevant to the existence of superposition with the data area which displays the animation area which displays animation contents, and data contents, and animation area according to claim 1.

[Claim 3] Said server is an animation distribution system according to claim 1 or 2 characterized by having responded longwise [the monitor display of an information terminal unit] as data contents / oblong, having prepared the object for longwise [of the same contents], and the data contents for oblong substantially, and including two URL to both data contents as said access information.

[Claim 4] While transmitting animation contents, and the access information and its playback time information for accessing to predetermined data contents with playback of the animation as broadcast data It is the server which transmits the data contents demanded based on said access information with playback of said animation as commo data. Said server While transmitting the display mode command which determines the display mode of the animation contents in the screen of said information terminal unit, and data contents as broadcast data in addition to the access information and playback time information to that of said data contents The server characterized by offering the data contents which should be displayed with playback of said animation through a communication network according to access based on said access information from said information terminal unit.

[Claim 5] Said display mode command is a server containing at least one of the commands which specifies aspect ratio preservation or the display size of the command relevant to the existence of superposition with the data area which displays the animation area which displays animation contents, and data contents, and animation area according to claim 4.

[Claim 6] Said server is a server according to claim 4 or 5 characterized by having responded longwise [the monitor display of an information terminal unit] as data contents / oblong, having prepared the object for longwise [of the same contents], and the data contents for oblong substantially, and including two URL to both data contents as said access information.

[Claim 7] With the animation contents broadcast from a server A broadcast receiving means to receive the display mode command which determines the display mode of the animation contents in the screen of the access information for accessing to predetermined data contents with playback of the animation, its playback time information, and said information terminal unit, and data contents, A means to separate and extract said access information, playback time information, and a display mode command from broadcast information, While requiring of a server the data contents which correspond based on said access information with playback of said

animation through a communication network A data communication means to receive the data contents returned, and the monitor which has the monitor display which displays said animation contents and data contents, While displaying said data contents which received on said monitor display according to said playback time information The information terminal unit characterized by having a display-control means to control the display mode of said animation contents on said monitor display, and data contents based on said display mode command.

[Claim 8] Said display-control means is an information terminal unit according to claim 7 characterized by displaying said animation contents on the greatest magnitude which is in the condition which saved the aspect ratio, and is contained in said monitor display.

[Claim 9] Said display mode command contains the command relevant to the existence of superposition with the data area which displays the animation area which displays animation contents, and data contents. In with superposition, said display-control means is an information terminal unit according to claim 7 or 8 which displays data contents on an animation in piles, and is characterized by making a part of remaining free area [at least] of said animation area into a data area in said monitor display when you have no superposition.

[Claim 10] Said display-control means is an information terminal unit according to claim 9 characterized by not being concerned with said display mode command, but displaying said data contents on said animation contents in piles when the size of said remaining free area does not fulfill predetermined size.

[Claim 11] Said display-control means is an information terminal unit according to claim 9 characterized by reducing the size of said animation area so that the data area which displays said data contents can be secured, when the size of said remaining free area does not fulfill predetermined size.

[Claim 12] Said display-control means is an information terminal unit according to claim 7 characterized by what is displayed by the display size when it is in the condition which saved the aspect ratio, and said animation contents are displayed on the greatest magnitude contained in said monitor display when aspect ratio preservation is specified including the command with which said display mode command specifies aspect ratio preservation or the display size of animation area, and the concrete display size is specified.

[Claim 13] The information terminal unit according to claim 7 or 8 characterized by having a means to rotate 90 degrees of images in said monitor display according to actuation of a user.

[Claim 14] The information terminal unit according to claim 7 or 8 characterized by having had the sensor which detects the posture of said information terminal unit, and having a means to rotate 90 degrees of images in said monitor display according to the output of this sensor.

[Claim 15] The information terminal unit according to claim 13 or 14 characterized by

having a flexible means to expand and contract the size of said animation according to said monitor display with rotation of said image.

[Claim 16] In with said superposition, said display-control means is an information terminal unit according to claim 9 characterized by suspending temporarily the display of said data contents or said animation contents according to directions of a user at least.

[Claim 17] Said display-control means is an information terminal unit according to claim 9 characterized by changing a condition with superposition, and a nothing condition according to directions of a user regardless of display related commands.

[Claim 18] The information terminal unit according to claim 7 characterized by choosing one access information from said server according to whether the breadth of the present data area is equal to the long side of monitor display when the access information of both the object for longwise [of the same contents] and the data contents for oblong is substantially received as data contents.

[Claim 19] The animation contents which are the display mode control approaches in an information terminal unit, and are broadcast from a server, The step which receives the display mode command which determines the display mode of the animation contents in the screen of the access information for accessing to predetermined data contents with playback of the animation, its playback time information, and said information terminal unit, and data contents, The step which separates and extracts said access information, playback time information, and a display mode command from broadcast information, While requiring of a server the data contents which correspond based on said access information with playback of said animation through a communication network In case said animation contents and data contents are displayed on a monitor as the step which receives the data contents returned The display mode control approach characterized by having the step which performs the display of said animation contents and data contents according to said display mode command.

[Claim 20] It is the display mode control program which performs display mode control in an information terminal unit. The access information for accessing to predetermined data contents with playback of the animation contents broadcast from a server, and its animation, the playback time information of the data contents under playback of the animation concerned, and the animation contents in the screen of said information terminal unit And the step which receives the display related commands which determine the display mode of data contents, Said access information from broadcast information, playback time information, and the extracted step that carries out a display mode command, While requiring of a server the data contents which correspond based on said access information with playback of said animation through a communication network In case said animation contents and data contents are displayed on a monitor as the step which receives the data contents returned The display mode control program characterized by realizing the step which controls the

display mode of said animation contents on said monitor display, and data contents based on said display related commands.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the animation distribution system which distributes animation contents, and it relates to the animation distribution system which consists of an information terminal unit which receives the server which offers service which transmits the data contents demanded based on access information with playback of said animation as commo data, and its service while it transmits the access information for accessing to predetermined data contents with playback of ***** contents and its animation especially as broadcast information.

[0002]

[Description of the Prior Art] In recent years, the environment where bidirectional signal transduction which can disseminate information not only from the one-sided signal transduction from the conventional broadcasting station to a user but from a user can be performed has been ready with development of a digital-broadcasting technique and communication technology.

[0003]

[Problem(s) to be Solved by the Invention] In such a background, while distributing animation contents by broadcast to a user's information terminal unit, the service which distributes the data contents relevant to it via a network is considered. Data contents here are text data, static-image data, etc.

[0004] It is necessary to express animation contents and data contents as such service in the monitor display (display screen) of an information terminal unit at coincidence. For example, the application of displaying the text information according to the scene on a screen automatically can be considered with playback of an animation.

[0005] By the way, there are various equipments, such as a cellular-phone terminal, PDA (Personal Digital Assistant), car navigation equipment, game equipment, a personal computer, and home television, in an information terminal unit, it is alike, respectively, and the size and the aspect ratio of the monitor display are various. Moreover, although the size of the monitor display is various very much and there are usually many longwise things, an oblong thing also exists one cellular-phone terminal. [0006] Therefore, in displaying animation contents and data contents on such various monitor displays legible by the user simultaneous, a certain device is needed. While

there is a request of wanting to display as greatly as possible especially the dynamic image that has a motion in information terminal units with comparatively small monitor display, such as a cellular-phone terminal, readability is wanted not to spoil data contents, such as a text, either.

[0007] This invention aims at offering the animation distribution system and information terminal unit which can display animation contents and data contents on monitor display with a more suitable display gestalt to such a conventional technical problem according to a user's hope, corresponding to each monitor display.

[0008]

[Means for Solving the Problem] While the animation distribution system by this invention transmits the access information and its playback time information for accessing to predetermined data contents with animation contents and playback of the animation as broadcast data The server which transmits the data contents demanded based on said access information with playback of said animation as commo data through a communication network, It has the information terminal unit which displays the animation contents and data contents which received from said server on monitor display. Said server In addition to said access information and its playback time information, the display mode command which determines the display mode of the animation contents in the screen of said information terminal unit and data contents is transmitted. While said information terminal unit reproduces said animation contents on self monitor display With this playback, said communication network is minded, said data contents are serially required and received based on said access information, and it is characterized by performing the display of said animation contents and data contents according to said display mode command.

[0009] The display of animation contents and data contents can be made to perform in the display mode which was suitable for the animation in the information terminal unit which received it by transmitting from a server the display mode command transmitted with animation contents.

[0010] Said display mode command contains at least one of the commands which specifies aspect ratio preservation or the display size of the command relevant to the existence of superposition with the data area which displays the animation area which displays for example, animation contents, and data contents, and animation area.

[0011] Said server responds still more nearly longwise [the monitor display of an information terminal unit] as data contents / oblong, and prepares the object for longwise [of the same contents], and the data contents for oblong substantially, and you may make it include two URL to both data contents as said access information. Thereby, in an information terminal unit side, it becomes possible to use the data contents of the more suitable one according to the condition of self monitor display. Consequently, the display of more suitable data contents is realizable to a variety of information terminal units which have various monitor displays.

[0012] While the server by this invention transmits animation contents, and the

access information and its playback time information for accessing to predetermined data contents with playback of the animation as broadcast data. It is the server which transmits the data contents demanded based on said access information with playback of said animation as commo data. Said server While transmitting the display mode command which determines the display mode of the animation contents in the screen of said information terminal unit, and data contents as broadcast data in addition to the access information and playback time information to that of said data contents. It is characterized by offering the data contents which should be displayed with playback of said animation through a communication network according to access based on said access information from said information terminal unit.

[0013] The information terminal unit by this invention with the animation contents broadcast from a server A broadcast receiving means to receive the display mode command which determines the display mode of the animation contents in the screen of the access information for accessing to predetermined data contents with playback of the animation, its playback time information, and said information terminal unit, and data contents, A means to separate and extract said access information, playback time information, and a display mode command from broadcast information, While requiring of a server the data contents which correspond based on said access information with playback of said animation through a communication network A data communication means to receive the data contents returned, and the monitor which has the monitor display which displays said animation contents and data contents, While displaying said data contents which received on said monitor display according to said playback time information It is characterized by having a display-control means to control the display mode of said animation contents on said monitor display, and data contents based on said display mode command.

[0014] As one mode of this information terminal unit, said display-control means is in the condition which saved that aspect ratio, and displays said animation contents on the greatest magnitude contained in said monitor display.

[0015] As other modes of said information terminal unit, said display mode command The command relevant to the existence of superposition with the data area which displays the animation area which displays animation contents, and data contents is included. Said display-control means In with superposition, data contents are displayed on an animation in piles, and when you have no superposition, let a part of remaining free area [at least] of said animation area be a data area in said monitor display.

[0016] When the size of said remaining free area does not fulfill predetermined size, said display-control means is not concerned with said display mode command, but you may make it display said data contents on said animation contents in piles. Or when the size of said remaining free area does not fulfill predetermined size, you may make it said display-control means reduce the size of said animation area so that the data area which displays said data contents can be secured.

[0017] Said display mode command may also contain the command which specifies aspect ratio preservation or the display size of animation area, and said display-control means is displayed by the display size, when it is in the condition which saved the aspect ratio, and said animation contents are displayed on the greatest magnitude contained in said monitor display, when aspect ratio preservation is specified in that case, and the concrete display size is specified. It can be determined according to the animation of each [implementer / contents] as any it is specified.

[0018] Said information terminal unit may be equipped with a means to rotate 90 degrees of images in said monitor display according to actuation of a user. Or it may have the sensor which detects the posture of said information terminal unit, and you may have a means to rotate 90 degrees of images in said monitor display according to the output of this sensor.

[0019] It is desirable to have a flexible means to expand and contract the size of said animation according to said monitor display with rotation of said image. By this, image size can be doubled with monitor display with rotation of an image.

[0020] Said display-control means may enable it to suspend temporarily the display of said data contents or said animation contents according to directions of a user at least in with said superposition. Especially this is useful to gaze at one side temporarily, when both contents pile up and are displayed.

[0021] Said display-control means may enable it to change a condition with superposition, and a nothing condition according to directions of a user regardless of display related commands.

[0022] Said information terminal unit can choose one access information from said server according to whether the breadth of the present data area is equal to the long side of monitor display, when the access information of both the object for longwise [of the same contents] and the data contents for oblong is substantially received as data contents.

[0023] The animation contents which the display mode control approach by this invention is the display mode control approach in an information terminal unit, and are broadcast from a server, The step which receives the display mode command which determines the display mode of the animation contents in the screen of the access information for accessing to predetermined data contents with playback of the animation, its playback time information, and said information terminal unit, and data contents, The step which separates and extracts said access information, playback time information, and a display mode command from broadcast information, While requiring of a server the data contents which correspond based on said access information with playback of said animation through a communication network It is characterized by having the step which receives the data contents returned, and the step which performs the display of said animation contents and data contents according to said display mode command in case said animation contents and data contents are displayed on a monitor.

[0024] The display mode control program by this invention is a display mode control program which performs display mode control in an information terminal unit. The access information for accessing to predetermined data contents with playback of the animation contents broadcast from a server, and its animation, the playback time information of the data contents under playback of the animation concerned, and the animation contents in the screen of said information terminal unit. And the step which receives the display related commands which determine the display mode of data contents, Said access information from broadcast information, playback time information, and the extracted step that carries out a display mode command, While requiring of a server the data contents which correspond based on said access information with playback of said animation through a communication network. In case said animation contents and data contents are displayed on a monitor as the step which receives the data contents returned. It is characterized by realizing the step which controls the display mode of said animation contents on said monitor display, and data contents based on said display related commands.

[0025] This invention can also be grasped as a record medium recorded still more possible [reading of this display mode control program].

[0026]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to a detail with reference to a drawing.

[0027] The outline configuration of the animation distribution system applied to the gestalt of 1 operation of this invention at drawing 1 is shown. This animation distribution system is constituted by a server 100 and the information terminal unit 200. The information terminal unit 200 explains a cellular-phone terminal as an example in the example of drawing.

[0028] A server 100 divides roughly and has the two storage sections 110,120 and the two communications departments 130,140 respectively corresponding to these. The storage section 110 stores the display related commands 114 distributed with the animation contents 112 for broadcast, and this. The animation contents 112 and the display related commands 114 are transmitted to the public address system 150 through the communications department 130. The public address system 150 may be which the public address system of a ground wave and a satellite wave. Although it is desirable that it is digital broadcasting as for the animation contents 112 if many channelization etc. is taken into consideration, they do not eliminate analog broadcasting. In the case of analog broadcasting, digital data is intermingled and transmitted at a broadcast wave.

[0029] These animation contents and display related commands that were broadcast are received by the broadcast receiving means of the information terminal unit 200. The data contents playback schedule information and the display mode command which are mentioned later are included in display related commands.

[0030] On the other hand, the storage section 120 of another side in a server 100 is a

part which stores the data contents described by the markup language which makes HTML (Hyper Text MarkupLanguage) representation. These data contents correspond to the data of the homepage of the Internet, and may contain data, such as voice, including a text or a still picture depending on the case typically. Here, according to the longwise/oblong exception of the monitor display 280 of the information terminal unit 200, two data contents, the object for longwise [of the same contents] and the object for oblong, 122,124 are prepared substantially. The numbers of alphabetic characters of 1 end of a road of a text not only differ, but both may change the expression of a text in the range which does not change substantial contents. Only by changing the number of alphabetic characters of 1 end of a road, it is because readability is not improved.

[0031] These data contents 122,124 are accessed by the request through the network 170 from the information terminal unit 200 which displayed animation contents. The specified data contents are returned according to this request. Networks 170 are networks, such as the Internet, and, in the case of a cellular-phone terminal, may contain a packet communication network, a cellular-phone network, etc.

[0032] The block diagram shown in drawing 2 explains the example of an internal configuration of the information terminal unit 200.

[0033] Selection reception of the broadcasting electric-wave from the public address system 150 shown in drawing 1 is done by the broadcast receive section 240. The animation information by which selection reception was carried out in the broadcast receive section 240 is sent to the animation viewer 265. This animation viewer 265 also has the image flexible function (size-change function of an animation) so that it may mention later. In addition to animation information, said data contents playback schedule information and said display mode command are included in an input signal from this broadcasting electric-wave. The broadcast receive section 240 in the gestalt of this operation has the command extract section 242 which extracts these display related commands. The extracted command is inputted into the command interpretation engine 225 through the command receive section 250. The command receive section 250 hands the command interpretation engine 255 in first stage in response to the default command 222 which is a default display mode command beforehand stored in ROM220.

[0034] As for the default command 222, the size of the monitor display of a proper, the suitable superposition condition according to a longwise/oblong exception, the display mode command of animation area assignment (for example, aspect ratio preservation or size), etc. are stored in the information terminal unit 200. Moreover, the information on another [of the monitor display concerned / longwise/oblong / itself] may be held as a default command 222. If ROM220 is constituted from nonvolatile memory in which rewriting like a flash ROM is possible, a user is able to change the default command at the time of product shipment.

[0035] In first stage, in response to the default command 222, the command

interpretation engine 255 defines the size and the display modes of the display area of animation contents, and the display area of data contents (telescopic motion of a superposition condition and animation area, the change of the display between contents, momentary elimination of one contents, etc.), and directs the result to WWW browser 260 and the animation viewer 265. For example, the command interpretation engine 255 determines the size of animation area according to the screen width of face of the monitor display concerned, saving the aspect ratio of an animation, when animation area information shows "aspect ratio preservation." With the gestalt of this operation, the home position of monitor display is a location of the upper left edge of a screen, and the location of animation area is set up so that the upper left edge of animation area may be doubled with the home position of monitor display. When animation area information specifies specific animation area size, the size information (width of face w and height h) is given to the animation viewer 265. That is, the animation viewer 265 has the function which expands and contracts animation area (and animation displayed into it) so that the specified size may be suited. When animation area information specifies aspect ratio preservation, the animation area size is set as the maximum size contained by the monitor display concerned in principle.

[0036] The command interpretation engine 255 gives URL information serially to WWW browser 260 to predetermined timing with animation playback based on the data contents playback schedule information which consists of the time information and URL (Universal Resource Locator) information (access information of data) in the command received again by broadcast which is explained in full detail behind. In addition, a default display mode is updated based on the command received by broadcast. Thereby, in a contents production person side, suitable data contents and a display mode can be specified according to each scene also within one animation, corresponding to each animation. Moreover, the command interpretation engine 255 can also update a display mode in response to the output of the user directions or the attitude sensor 232 from the key groups 212 of a control panel 210 (a ten key, an arrow key, a switch, etc.). Although an attitude sensor 232 is not indispensable to this invention, if this is prepared, the existence of 90-degree rotation of a personal digital assistant can be detected automatically, and the display of monitor display can be changed. This is significant at the point that animation area is usually expandable especially in the case of longwise monitor display. The well-known thing of arbitration can be used as an attitude sensor 232. For example, the combination of the optical electric shielding member and the optical interrupter (neither is illustrated) according to gravity can be used. this attitude sensor 232 -- at least -- the time of the display of an animation -- continuous -- or -- being periodic (every [For example, several 100] m seconds) -- it is sufficient if it is made to operate.

[0037] It connects with a network 170 through the communications department 245, and WWW browser 260 has the function which is data which exist in specified URL and which requires a HTML (Hyper Text Mauku Language) document, for example,

receives the data, and assembles the contents of a display according to a predetermined protocol (http: for example, hyper text transfer protocol). Moreover, with the gestalt of this operation, as mentioned above, the location of a screen (it is called a data area or a browser screen) and the information on size which display the data are received from the command interpretation engine 255, and it has the function which develops an indicative data in the location in the display memory 272 corresponding to the data area.

[0038] Display memory 272 is setting aside the memory plane developed from animation contents and data contents with the gestalt of this operation. Thereby, control of the superposition of both contents, one momentary display halt, etc. becomes easy. (However, this invention does not eliminate the case where both contents are written in the same memory plane.) A display and control section 270 reads the contents of display memory 272, outputs an indicative-data signal and a display-control signal to a monitor (display) 280, and displays the target screen. Which non-display control of one display plane can be performed by controlling directly a display and control section 270 from the command interpretation engine 255.

[0039] Each can realize the command interpretation engine 255, WWW browser 260, and the animation viewer 265 by the program manipulation of a central processing unit (CPU) (not shown). The program is stored in ROM220 or other nonvolatile memory which are not illustrated. Although the "display-control means" of this invention contains the command interpretation engine 255, WWW browser 260, the animation viewer 265, and a display and control section 270 in a wide sense, it shows the command interpretation engine 255 to in a narrow sense.

[0040] Here, drawing 3 explains the mode of the superposition of animation area and a data area. With the gestalt of this operation, drawing 3 (a) shows the "tile" display condition in the case of a longwise screen. Tiling does not pile up both area, but it carries out contiguity arrangement so that it may not overlap mutually. That is, in the example of drawing, animation area is made into the maximum size settled in monitor display where the aspect ratio of an animation is saved, and the data area is taken as the remaining rectangle area. Specifically in accordance with the lower left coordinate of animation area, the lower right coordinate of the upper left coordinate of a data area of a data area corresponds with the lower right coordinate of monitor display.

[0041] When data contents cannot contain to a data area, according to a user's key stroke, scrolling of a data image is possible. The direction (is it animation area right-hand side or the bottom?) where a data area adjoins animation area in the gestalt of this operation is on the right-hand side of animation area, when monitor display is longwise and the animation area bottom and monitor display are oblong. However, the direction which adjoins from a server side is shown with a tile command, and you may make it determine by the terminal side whether it responds to it.

[0042] As shown in drawing 3 (c), also when animation area is specified in concrete size, a data area turns into the maximum rectangle area in the remaining free area. It

is assumed that size in case size assignment of the animation area is carried out is specified in usually comparatively small size. However, when assignment size is not contained by monitor display, it is desirable to reduce animation area size automatically so that it may be contained by monitor display.

[0043] Drawing 3 (b) shows the "overlay" display condition of piling up both area. In this example, the whole monitor display was made into the data area, and this is put on animation area. In this case, it is desirable to perform display-processing actuation like alpha blending so that data contents and animation contents may be visible to coincidence.

[0044] Drawing 3 (d) shows the overlay condition when animation area is specified in concrete size. There is instead of [no] in making the whole monitor display into a data area also in this case.

[0045] By the way, when [like 4:3 or 16:9] it is oblong and the maximum hold of this is carried out on an oblong screen, as an animation is shown considerable the bottom on a television screen at drawing 3 (f), the remaining free area of the animation area in monitor display usually serves as very narrow area. (Although a free area shows the case where it generates, on the right-hand side of animation area by a diagram, a free area may arise to the animation area down side with each aspect ratio of monitor display and animation area) therefore, the superposition voice as which it was instructed in such a case -- it is not concerned like but may be made to consider as an overlay display condition compulsorily. On the other hand, also in the case of an oblong screen, as shown in drawing 3 (e), it is the case where the animation area of small size is specified comparatively, and when the rectangle area more than predetermined breadth can be used in the remaining area, the rectangle area concerned can be made into a data area.

[0046] As shown in drawing 4 (a) and (b), at a cellular-phone terminal, there are what has longwise monitor display, and an oblong thing by the model in the usual posture of a terminal in case a user looks at monitor display. Drawing 4 (c) and (d) show the condition of having made the half-clockwise rotation rotating 90 degrees of each cellular-phone terminal. For example, when rotating 90 degrees of cellular-phone terminals of longwise monitor display as shown in drawing 4 (a) (drawing 4 (c)), compared with the time of a vertical posture, it is possible to display an oblong animation more greatly. Under the present circumstances, the zero of monitor display is the location of the upper left corner of a screen also in which include angle. That is, in drawing 4 (a), it is O3 at O1 and drawing 4 (c). On the contrary, when rotating 90 degrees of cellular-phone terminals of oblong monitor display like drawing 4 (b) counterclockwise similarly (drawing 4 (d)), an oblong animation can be displayed smaller and tiling of data contents can be enabled. In this case, the zero of monitor display is O4 in drawing 4 (b) at O2 and drawing 4 (d).

[0047] in addition, the monitor display in a normal state be longwise -- be oblong -- when rotating 90 degrees of the monitor display, in oblong monitor display, longwise

monitor display changes longwise oblong. Therefore, it is desirable to enable it to choose the posture (longwise or oblong) of monitor display which suited a user's taste or it was suitable in each case by a user's intention. As a way method for that, when aspect ratio preservation is specified at least, in principle, animation area carries out a flexible setup so that it may become the maximum size contained by the monitor display of the posture.

[0048] In addition, the free area of the next door of the animation area in drawing 4 (b) and (c) does not exist, when the aspect ratio of an animation and the aspect ratio of monitor display are equal.

[0049] Further, as mentioned above, 2 sets of data contents the object for longwise and for oblong are prepared for the server side, and the corresponding data contents of the direction are chosen and expressed as the gestalt of this operation by the case where it uses for the case where monitor display is longwise used by the terminal side, and horizontal length. Thereby, when the sense of an animation is changed, the data contents of the more suitable one can be chosen according to it. Each information terminal unit has memorized as a default whether self monitor display is usually longwise or oblong. In addition, consideration is required separately so that the longwise/oblong exception of "the data contents the object for longwise and for oblong" here may assume the case where the whole monitor display is used as a data area in principle and it may mention later about the data area in a tiling condition.

[0050] Drawing 5 shows the scene which shows the profile of characters as data contents, when displaying the movie as animation contents in the longwise condition. Drawing 5 (a) shows the tiling condition. At this time, data contents are demanding the object for longwise of a server. When 90 degrees of monitor displays rotate from this condition according to change of the directions or the sensor output by actuation of a user's key (or switch), the whole monitor display becomes oblong. In this example, the aspect ratio state of preservation is shown, and animation area is rotated and expanded according to monitor display. Though natural, the animation displayed into it to compensate for rotation and expansion of animation area is rotated and expanded similarly. In the example of drawing 5 (b), since the breadth of the remaining free area of animation area is small, in tiling, the breadth of a data area is not enough and the situation compulsorily changed from the tiling condition to the overlay display condition is shown. Since the breadth of a data area can use one cup of long side of monitor display in the state of the overlay display of drawing 5 (c), the data contents for oblong have been chosen. Also when the superposition condition in drawing 5 (a) is an overlay display, it becomes like drawing 5 (b) at the time of the monitor display rotation.

[0051] Drawing 6 explains the example of the display related commands transmitted with animation contents from a server 100. the display related commands in the gestalt of this operation be the command groups a group made one unit 1 set of the access information (here vertical contents URL and horizontal contents (URL)) to the

relative time information (playback time information of the data contents under playback of the animation concerned) from an animation playback initiation point in time, a superposition condition (tile/overlay), and data contents, and animation area information (aspect ratio preservation or size), as show in drawing 6 (a). Relative time information and access information constitute the data contents playback schedule information interlocked with playback of an animation. Moreover, the display related commands which determine the display mode of the animation contents in the screen of information terminal units other than relative time information and URL information and data contents are called display mode command. The flexible change of an animation etc. may also contain the command of other classes in a display mode command. As shown in drawing 6 (b), what arranged two or more groups (two or more units) of display related commands including a display mode command in the serial in order of relative time of day is called playback schedule information for convenience. When the last command and the last contents of one unit of the same kind are the same, you may make it a certain command within a certain 1 unit which determines a display mode omit description of this command within a consecutive unit preferably.

[0052] Hereafter, the concrete procedure of the command interpretation engine 255 in the gestalt of this operation is explained. Processing of the command interpretation engine 255 is divided roughly into two, display mode control processing (drawing 7) in which each location and size of animation area and a data area are determined, and the data contents selection processing (drawing 8) which chooses data contents according to said playback schedule. Both processings operate in parallel.

[0053] Drawing 7 explains display mode control processing first.

[0054] A default command is read from ROM in first stage at the time of playback of animation contents (S11). Then, one unit of playback schedule information is read (S12). When the display mode command from a server is specified in it, (S13, Yes), and a default command are updated in the condition of the specified command (S14). Moreover, by the key stroke from a user, when there is modification of a display mode command, (S15, Yes), and its changed command are updated (S16). This is the change of the overlay display of for example, data contents, and tiling, the change (for example, change to the aspect preservation from size assignment) of animation area assignment, the flexible change of an animation, etc. Although it differs from the command from a server, one momentary elimination of animation contents and data contents, the flexible change of an animation, etc. may be received as another command. Furthermore, when there are image rotation directions from a user when 90 degrees of terminals rotate (at the time of attitude sensor adoption) or (S17, Yes), the zero of monitor display is updated (S19). The size of animation area is determined based on the command, the monitor display size, and the home position which received the above updating (S22). Subsequently, based on the size of the command which received updating, monitor display size, a home position, and animation area, the location and size of a data area are determined similarly (S23). Then, it returns to

step S27.

[0055] When the specified relative time of day comes (S18, Yes), based on the command, the monitor display size, and the home position which received the above updating, the size of animation area is determined like step S22 (S20). Subsequently, based on the size of the command which received updating, monitor display size, a home position, and animation area, the location and size of a data area are determined like step S23 (S21).

[0056] It returns to the above-mentioned step S12, and the above-mentioned processing is repeated until playback schedule information is completed (S24).

[0057] The concrete example of a procedure of animation area decision processing of step S20 of drawing 7 is shown in drawing 8. First, the location of the zero of current monitor display is checked (S31). Subsequently, it is confirmed whether there is any size assignment of animation area (S32). If there is size assignment of animation area, the value of the specified width of face will be assigned to Variable w, and **** of the specified height will be substituted for Variable h (S34). There is no size assignment, namely, when it is aspect ratio preservation, w value and h value which serve as the maximum area in monitor display are calculated, with an aspect ratio saved (S33).

Thus, w and h which were obtained become the size of animation area. As mentioned above, the location of animation area is a location whose coordinate point at the upper left of animation area corresponds with the coordinate point at the upper left of monitor display. After steps S33 and S34 returns to processing of drawing 7.

[0058] The concrete example of a procedure of data area decision processing of step S21 of drawing 7 is shown in drawing 9. First, it judges whether tiling is specified as a superposition condition (S41). That is [it is not tiling], (S41, No), and the upper left coordinate (X, Y) of a data area are made in agreement at the current zero of monitor display in an overlay display (S42). Furthermore, the width of face w of a data area and height h are made in agreement with the width of face and the height of monitor display in the present terminal posture, respectively. For example, in the example of drawing 4 (a) and (c), each width of face w is w1 and w2, and height h is h1 and h2.

[0059] In tiling (S41, Yes), it is confirmed whether the monitor display of a current posture is longwise (S44). If longwise (S44, Yes), (X, Y) will be made in agreement with the lower left edge of animation area (S45). Subsequently, w is made in agreement with the width of face of monitor display, and h is made in agreement with the remainder of the height of monitor display. If oblong (S44, No), it will be confirmed whether the free area more than predetermined width of face remains in the right-hand side of animation area (S47). If it remains, (X, Y) will be made in agreement with the top right corner of animation area (S48). Furthermore, while making w in agreement with the remainder of the width of face of monitor display, h is made in agreement with the height of monitor display (S49). At step S47, when a judgment result is No, it judges whether a free area is in the animation area bottom (S50). When there is such a free area, (X, Y) are made in agreement with the lower left edge of

animation area (S51). Subsequently, w value is made in agreement with the width of face of monitor display, and h value is made in agreement with the remainder of the height of monitor display. If there is no free area in the animation area bottom (S50, No), it will progress to step S42. That is, it considers as an overlay display temporarily compulsorily. You may make it instead reduce animation area so that the free area which is sufficient for the display of data contents may be obtained. A user can perform such a setup as initial setting. After steps S43, S46, and S49 returns to processing of drawing 7. Thus, the location and size of a data area are determined.

[0060] Next, drawing 10 explains data contents selection processing. First, one unit of playback schedule information is read (S61). Subsequently, the data contents URL of the direction which responded oblong [longwise / current monitor display // oblong] out of the one unit are chosen (S62). Under the present circumstances, preferably, if the same as the side of monitor display where the width of face of a data area is longer, in tiling, the oblong data contents URL will be chosen, otherwise, the longwise data contents URL will be chosen as it. Then, it waits for arrival of the relative time of day of the one unit concerned (S63). If relative time of day comes, access to said selected URL is directed to a WWW browser (S64). Relative time of day is better than the display time of day of the animation scene which corresponds in consideration of the time amount which access of data contents takes also as time of day in front of predetermined time. Although this measure may be uniformly performed by the server side, it may carry out an adjustable setup of said predetermined time according to an individual according to the communication environment of that terminal by the terminal side.

[0061] Then, if there is an event leading to URL modification, such as renewal of a screen zero, (S65), based on the same decision as the above, access to URL of another side will be directed to a WWW browser if needed (S66). Return and the above-mentioned processing are repeated to step S61 until playback schedule information is completed (S67).

[0062] By processing of drawing 10, serial playback of data contents is performed according to the playback schedule of the data contents corresponding to each animation contents. Moreover, it responds longwise [current / of monitor display] / oblong, and the corresponding data contents URL are chosen. As mentioned above, although the gestalt of operation was explained suitably [this invention], it is possible to perform various deformation and to make a change.

[0063] For example, although the animation contents server and the data contents server showed the case where it was in the same site, they may exist in a respectively separate server. Moreover, you may exist in the separate site to which the data contents server itself stored various data contents.

[0064] You may also include the case where data distribution is performed from a server through a data communication network in broadcast. In that case, the broadcast receive section in an information terminal unit becomes unnecessary.

[0065] Although the cellular-phone terminal was explained, this invention cannot be restricted to this and can apply PDA, car navigation equipment, a game machine, etc. to the information terminal unit of arbitration. Moreover, about the description part which is not related to change (rotation) of a posture, the information terminal unit of this invention is not restricted to a pocket mold.

[0066] Although the data area at the time of an overlay display always considered as the whole monitor display, you may make it specify specific area with the display gestalt command from a server. There may be a method of specifying the line count of the approach of specifying a location and size concretely, a location, and a text, as a specification method of the area etc. Moreover, it is also possible to specify a data area not related according to overlay/tile. Furthermore, it is also possible to make the data area at the time of an overlay display into the area of immobilization like the strip region of the number of Sadayuki Tokoro of the lower part of monitor display defined beforehand.

[0067] Although HTML was explained as a markup language cHTML (CompactHyper Text Markup Language), WML (Wireless Markup Language), HDML (Handheld Device Markup Language), XML (eXtended Markup Language), XHTML (eXtensible Hyper Text Markup Language), You may be other markup languages, such as BML (Broadcast MarkupLanguage).

[0068]

[Effect of the Invention] According to this invention, according to a user's hope, animation contents and data contents can be displayed on monitor display with a more suitable display gestalt, corresponding to each monitor display of an information terminal unit.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the outline configuration of the animation distribution system concerning the gestalt of 1 operation of this invention.

[Drawing 2] It is the block diagram showing the example of an internal configuration of the information terminal unit in the animation distribution system shown in drawing 1 .

[Drawing 3] It is an explanatory view about mode [of the superposition of the animation area in the gestalt of operation of this invention, and a data area] (a) – (f).

[Drawing 4] It is the explanatory view of posture [of the terminal when seeing each monitor display in a cellular-phone terminal longwise / monitor display / and oblong in the gestalt of operation of this invention] (a) – (d).

[Drawing 5] In the gestalt of operation of this invention, while displaying the movie as

animation contents in the longwise condition, it is drawing showing the scene (a) which shows the profile of characters as data contents, and (b).

[Drawing 6] In the gestalt of operation of this invention, it is drawing for explaining the example (b) of a format (a) of the display related commands transmitted with animation contents from a server, and two or more groups (two or more units) of display related commands.

[Drawing 7] It is the flow chart which shows the procedure of the display mode control processing in the gestalt of operation of this invention.

[Drawing 8] It is the flow chart which shows the concrete example of a procedure of animation area decision processing of step S20 of drawing 7 .

[Drawing 9] It is the flow chart which shows the concrete example of a procedure of step S21 of drawing 7 .

[Drawing 10] It is the flow chart which shows the procedure of the data contents selection processing in the gestalt of operation of this invention.

[Description of Notations]

100 [-- Display related commands, 130,140 / -- The communications department, 150 / -- The public address system, 170 / -- A communication network, 200 / -- An information terminal unit, 280 / -- A monitor (display) 212 / -- A key group, 232 / -- Attitude sensor] -- A server, 110,120 -- The storage section, 112 -- Animation contents, 114
